

MEMORANDUM

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DATE: December 18, 2014

SUBJECT: Operational Position Statement for Dec 16, 2014 – Dec 22, 2014

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance (2008 LORS). The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD [Operational Planning](#) internet page.

For the period December 16 through December 22 2014, the SFWMD recommendation to the USACE is to implement a 7-day pulse release averaging 1,500 cfs measured at S-79 and no releases from the Lake to the St. Lucie Estuary. This recommendation is in agreement with the 2008 LORS release guidance for this week, which calls for releases of up to 3,000 cfs measured at S-79 and up to 1,170 measured at S-80. The lake stage remains within the Low Sub-band. The SFWMD continues to use the current opportunity of relatively good water quality in Lake Okeechobee and low to moderate water supply demand to maximize the Lake Okeechobee Regulatory Releases to the WCA via the STAs.

Given Lake Okeechobee's current stage and rate of recession and the likely development of a weak to moderate strength El Nino conditions in the Equatorial Pacific the SFWMD is evaluating the need for increased releases to the estuaries. The SFWMD recommends having a Periodic Scientists Call for Lake Okeechobee & Estuaries next week and allocating time for the SFWMD to present information on the expected stage and releases through the dry season and the potential impacts of El Nino conditions. The USACE and SFWMD will continue to examine the need to modify releases to the estuaries for the next operational period, within the LORS 2008 weekly release recommendation and flexibility.

2008 LORS Release Guidance (Part C): Given the current Lake Okeechobee stage position, Part C of the 2008 LORS suggests "Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades Impacts".

Consistent with the LORS release guidance, the USACE is requesting the SFWMD to continue maximum practicable Lake Okeechobee regulatory releases to the WCAs. For the on-coming days, Lake regulatory releases to the WCAs will be treated in STA-1E, STA-1W, STA-2 and STA-3/4. Deliveries into WCA-1 will be balanced with similar releases through the S-10 structures (and/or S-39 if necessary) to maintain stages within Zone A-2. Deliveries to WCA-2A will help moderate the recession rates and deliveries to northwest WCA-3A are still recommended to maintain good hydration with the prevailing dry season conditions. SFWMD is also routing lake releases into the Holeyland and Rotenberger areas through STA-3/4.

Salinities are high in Florida Bay because of low rainfall and low creek flow this wet season. These early dry season conditions pose an increased risk of a Minimum Flows and Levels exceedance and violation for Florida Bay in 2015. Increased freshwater inflows will benefit conditions in Florida Bay.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance is: "S-79 up to 3,000 cfs and S-80 up to 1,170 cfs". Release guidance did not change compared to the last two previous weeks.

The USACE is presently conducting a 7-day pulse release averaging 1,500 cfs at S-79 and no releases at S-80, which started 0700 hours on December 12, 2014 and will end 0659 hours December 19, 2014. The current release implementation is measured at S-79 and requires that the Lake Okeechobee releases (at S-77) be reduced to account for any local runoff into the Caloosahatchee River (C-43) between S-77 and S-79. This accounting is performed on a daily basis.

According to District scientists, there is no ecological benefit associated with additional inflows into the St. Lucie Estuary from Lake Okeechobee. For the Caloosahatchee Estuary, additional inflows from Lake Okeechobee resulting in mean monthly flows greater than 1500 cfs at S-79 would pose an ecological risk for oysters in the vicinity of the Cape Coral Bridge. Releases from S-79 should be conducted in a pulse pattern, varying in both the magnitude and duration among the pulses, to mitigate potential stratification and phytoplankton accumulation in the water column. This will also help avoid the deposition (settling) of organic matter in the same localized area due to repetitive flow patterns. The attached table contains different pulse release patterns for S-79, in terms of duration and average release, which could be used to implement operations for the period starting on December 19.

Lake Okeechobee scientists also stated that increases in the quantities of water discharged from the Lake over the next 30 days would be beneficial in reducing lake levels to a more ecologically suitable range and increasing the recession rate.

Summary of System Conditions

Weather and Climate

There was no rainfall recorded District wide for the period December 9 to December 15. Below to average rainfall is expected for the coming two weeks.

Current Conditions and Operations

As of December 16, Kissimmee lakes are at or above their respective regulation schedules as result of rainfall experienced the last week of November. Lake Kissimmee is slightly above schedule. Currently, flow through S-65 is about 1,800 cfs. Inundation depths in the Kissimmee River floodplain remain basically the same as last week.

The December 16, 2014 Lake Okeechobee stage (reported by the USACE as the stage on December 15, 2400 hours) was 15.35 feet NGVD. The lake stage had a decrease of 0.18 feet over the past week. The lake stage is about 0.29 feet lower than a month ago, about 0.91 feet higher than one year ago and 0.62 feet over the historical average.

Daily release rates at the lake structures, averaged for the week ending December 15, were estimated as 1,029 cfs at S-77 and 372 cfs at S-308. At the tidal structures, average daily discharges were about 1,484 cfs at S-79 and 0 cfs at S-80. Releases through S-308 were for water supply. The proportion of S-77 releases in the S-79 flows is about 70%, a substantial increase from previous week. Lake Okeechobee regulatory releases south were conducted this week through S-352 into STA 1E, 1W and 2, S-351 into STA2 and S-354 into STA 3/4; with STA discharges directed to WCA-

1, WCA-2A, NW WCA-3A, Holeyland, and Rotenberger. Regionally, water supply demands are increasing.

Recession rates in the Water Conservation Areas increased compared to last week. WCA-2A recession rate is faster than the optimal range. The optimum Dry Season recession rate would be between -0.05 to -0.09 feet per week.

SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance

This week the SFWMD is not applying the Lake Okeechobee Adaptive Protocol release guidance flowchart since the Lake Okeechobee stage is above the Base-flow Sub-band of the 2008 LORS. The Adaptive Protocols process is documented in the District publication Final Adaptive Protocols for Lake Okeechobee Operations (September 16th, 2010).

For additional information pertaining to operations history and past recommendations, refer to the archives of LORS-2008 Release Guidance outcomes and operational position statements at www.sfwmd.gov under the Operational Planning topic.

Table 1. Schedules for 7-day and 14-day pulses at S-79

| Day | 7-day pulses | | | | | 14-day pulses | | |
|-----|--------------|---------|----------|----------|----------|---------------|----------|----------|
| | 650 cfs | 800 cfs | 1000 cfs | 1200 cfs | 1500 cfs | 1000 cfs | 1200 cfs | 1500 cfs |
| 1 | 900 | 1400 | 1400 | 1700 | 2000 | 800 | 1000 | 1300 |
| 2 | 1400 | 1600 | 1600 | 2100 | 2400 | 1200 | 1500 | 1800 |
| 3 | 1000 | 1200 | 1300 | 1800 | 2100 | 1700 | 2000 | 2300 |
| 4 | 650 | 800 | 1000 | 1100 | 1400 | 2700 | 3000 | 3300 |
| 5 | 400 | 400 | 800 | 900 | 1200 | 2200 | 2400 | 2700 |
| 6 | 200 | 200 | 600 | 600 | 900 | 1800 | 2000 | 2300 |
| 7 | 0 | 0 | 300 | 200 | 500 | 1200 | 1400 | 1700 |
| 8 | | | | | | 800 | 1000 | 1300 |
| 9 | | | | | | 600 | 800 | 1100 |
| 10 | | | | | | 400 | 600 | 900 |
| 11 | | | | | | 300 | 400 | 700 |
| 12 | | | | | | 200 | 300 | 600 |
| 13 | | | | | | 100 | 200 | 500 |
| 14 | | | | | | 0 | 200 | 500 |